

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1993	Park: Shenandoah NP
Principal Investigator: J. Voshell, Jr.	Office Phone: (703)231-5707 Email: n/a
Address: Virginia Tech & State University Department of Entomology Blacksburg, VA 24061 VA	Office Fax: n/a
Additional investigators or key field assistants (first name, last name, office phone, office email): No co-investigators	
Permit#: SHEN1993AGPS	
Park-assigned Study Id. #: unknown	
Project Title: Effects of Defoliation on the Aquatic Biota of Headwater Streams in Shenandoah National Park	
Permit Start Date: Jan 01, 1998	Permit Expiration Date Jan 01, 1998
Study Start Date: Jan 01, 1991	Study End Date Jan 01, 1994
Study Status: Completed	
Activity Type: Other	
Subject/Discipline: Invertebrates (Insects, Other)	
Objectives: 1. To determine the effect of defoliation on structure and function of benthic macroinvertebrate community.;2. To determine effect of defoliation on riparian vegetation corridor and aquatic vegetation (SNP LTEMs Monitoring).	
Findings and Status: Our results to date indicate that the impacted streams had elevated water temperatures for a brief period corresponding to gypsy moth defoliation (late-spring, early-summer). The annual input of coarse detritus (primarily leaves) was significantly less in the impacted streams, and there was a distinct pulse of this material during late-spring, early-summer. The annual input of frass (insect feces) was significantly higher in the impacted streams. There was no clear trend for any significant change in water chemistry in the impacted streams. Several measures of community structure (taxa richness, Hilsenhoff's biotic index, EPT index, diversity index, percent contribution of functional feeding groups, and Bray-Curtis similarity coefficient) indicated that there was no significant difference between the benthic macroinvertebrate community in the impacted and reference streams. The most likely difference that would occur in the first year of defoliation would be a change in growth or production, which will be the focus of the analyses during the final year of the project.	
For this study, were one or more specimens collected and removed from the park but not destroyed during analyses? No	
Funding provided this reporting year by NPS: 5600	Funding provided this reporting year by other sources: 0
Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college	
Full name of college or university:	Annual funding provided by NPS to university or college this reporting year:

n/a	0
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